



Complete Summary

GUIDELINE TITLE

Colorectal cancer screening.

BIBLIOGRAPHIC SOURCE(S)

World Gastroenterology Organisation (WGO). Practice guidelines: colorectal cancer screening. Paris (France): World Gastroenterology Organisation (WGO); 2007. 18 p.

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Colorectal cancer

GUIDELINE CATEGORY

Risk Assessment
Screening

CLINICAL SPECIALTY

Colon and Rectal Surgery
Family Practice
Gastroenterology
Internal Medicine

INTENDED USERS

Health Care Providers
Physicians

GUIDELINE OBJECTIVE(S)

To provide colorectal cancer (CRC) screening guidelines that distinguish between areas with differing resources and differing epidemiologies

TARGET POPULATION

Asymptomatic men and women who are likely to have adenomatous polyps or cancer

INTERVENTIONS AND PRACTICES CONSIDERED

Screening for Colorectal Cancer Based on Risk Factors and Resources Available

1. Fecal occult blood test
2. Fecal DNA tests (considered, but not recommended routinely)
3. Flexible sigmoidoscopy
4. Colonoscopy
5. Double-contrast barium enema
6. Computed-tomographic colonoscopy (virtual colonoscopy) (considered, but not recommended routinely)

MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of screening test
- Patient compliance with testing
- Colorectal cancer (CRC) mortality
- CRC incidence
- Cost-effectiveness of screening tests

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The available evidence was searched using a precise rather than sensitive syntax for each platform searched. Relevant guidelines were searched in the United States National Guideline Clearinghouse platform at www.ngc.org and on the web sites of the major medical societies concerned with gastroenterology and cancer. Further searches were carried out in Medline and EMBASE on the Dialog-Datastar platform for 2003 onwards. A search in the Cochrane Library yielded 18 relevant

systematic reviews and 12 protocols. The team's librarian supported each section team with dedicated searches for further back-up and detail.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

World Gastroenterology Organisation (WGO) guidelines summarize what is known and has been published in existing systematic reviews, evidence-based guidelines, and high-quality trials, and this information is then configured to make the guideline as relevant and accessible as possible globally. Usually, this means building different approaches in order to achieve the same ends—each approach is different because it attempts to take into account local resources, cultural preferences, and policies. WGO guidelines are not systematic reviews based on a systematic and comprehensive review of all the available evidence and guidelines.

This guideline was written by the review team following a series of literature searches to establish what had changed since the WGO's first position statement on the topic of colorectal cancer screening, published in 2002.

The review team members were each assigned specific sections in accordance with their own expertise and preferences. International experts were consulted for each section written by the review team, and the entire draft was edited by the review team chair and the librarian.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

All standard options for colorectal cancer (CRC) screening in average-risk individuals are cost-effective. They are as cost-effective as mammography and more cost-effective than other forms of medical screening (e.g., for cholesterol in hypertension). Systematic screening colonoscopy in first-degree relatives of patients with CRC, starting at the age of 40, demonstrates an economic benefit. In comparison with multiple-drug intensive chemotherapy for advanced cancer, screening is cost-saving.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Introduction

Different screening options for average-risk and higher-risk men and women aged 50 and over are reviewed here. The options take account of the availability of colonoscopy, flexible sigmoidoscopy, fecal occult blood test (FOBT), and barium enema. When screening resources are severely limited, the most realistic option would be fecal occult blood testing every year or two for average-risk men and women, starting at the age of 50.

The type of slide test used depends on screening resources and the dietary habits of the population.

Lower test positivity with Hemoccult II will tax colonoscopy resources less than more sensitive slide tests such as Hemoccult SENSА. Immunochemical tests are optimal, in that they require only two rather than three days of testing and require no dietary restrictions, but they cost more, which is a consideration when financial resources are low.

The diagnostic work-up can be with either colonoscopy, if available, or barium enema if colonoscopy is not readily available. Thus, the decision to identify separately people who are at increased risk depends on the colonoscopy resources available. If these are very limited, then people who are at increased risk can be screened along with average-risk people.

Screening Cascade

The colorectal cancer (CRC) screening cascade consists of a set of recommendations. The recommendations apply to different resource levels, beginning with 1 (highest resources) and ending with 6 (minimal resources available).

Cascade Level 1

The recommendations below are appropriate for countries with a relatively high level of resources (financial, professional, facilities) where the colorectal cancer incidence and mortality is high (International Agency for Research on Cancer [IARC] data) and is an important concern relative to other public health priorities.

Recommendations for Screening People at Average Risk

Colonoscopy for average-risk men and women, starting at the age of 50 and every 10 years in the absence of factors that would place them at increased risk

Recommendations for Screening People at Increased Risk

- People with a family history of colorectal cancer or adenomatous polyps.
 - People with a first-degree relative (parent, sibling, or child) with colon cancer or adenomatous polyps diagnosed under the age of 60, or with two first-degree relatives diagnosed with colorectal cancer at any age, should be advised to have screening colonoscopy starting at the age of 40, or 10 years younger than the earliest diagnosis in their family, whichever comes first, and repeated every 5 years.
 - People with a first-degree relative with a colon cancer or adenomatous polyp diagnosed when he or she was over the age of 60, or with two second-degree relatives with colorectal cancer, should be advised to be screened as average-risk persons, but starting at the age of 40.
 - People with one second-degree relative (grandparent, aunt, or uncle) or third-degree relative (great-grandparent or cousin) with colorectal cancer should be advised to be screened as average-risk persons.
- Familial adenomatous polyposis (FAP). People who have a genetic diagnosis of FAP, or who are at risk of having FAP but in whom genetic testing has not been performed or is not feasible, should have an annual sigmoidoscopy, beginning at age 10 to 12, to determine whether they are expressing the genetic abnormality. Genetic testing should be considered in patients with FAP who have relatives at risk. Genetic counseling should guide genetic testing and consideration of colostomy.
- Hereditary nonpolyposis colorectal cancer (HNPCC). People with a genetic or clinical diagnosis of HNPCC, or who are at increased risk for HNPCC, should have colonoscopy every 1 to 2 years, starting at the age of 20 to 25 or 10 years earlier than the youngest age of colon cancer diagnosis in the family, whichever comes first. Genetic testing for HNPCC should be offered to first-degree relatives of persons with a known inherited mismatch repair (MMR) gene mutation. It should also be offered when the family mutation is not already known, but one of the first three of the modified Bethesda criteria is met.

- People with a history of inflammatory bowel disease or a history of adenomatous polyps or colorectal cancer are candidates for follow-up surveillance, rather than screening. Guidelines have been published for the surveillance of these individuals.

Cascade Level 2

The recommendations are the same as for level 1, but they apply when colonoscopy resources are more limited.

Recommendations for Screening People at Average Risk

Colonoscopy for average-risk men and women at age 50 once in a lifetime, in the absence of factors that would place them at increased risk.

Recommendations for Screening People at Increased Risk

Recommendations for screening people who are at increased risk are the same as for cascade 1.

Cascade Level 3

The recommendations are the same as for level 1, but they apply when the colonoscopy resources are more limited and flexible sigmoidoscopy resources are available.

Recommendations for Screening People at Average Risk

Flexible sigmoidoscopy for average-risk men and women, starting at the age of 50, every 5 years, in the absence of factors that would place them at increased risk. Diagnostic work-up with colonoscopy for positive sigmoidoscopy.

Recommendations for Screening People at Increased Risk

Recommendations for screening people at increased risk are the same as for level 1.

Cascade Level 4

The recommendations are the same as for level 3, but they apply when the flexible sigmoidoscopy and colonoscopy resources are more limited.

Recommendations for Screening People at Average Risk

Flexible sigmoidoscopy for average-risk men and women once in a lifetime at the age of 50, in the absence of factors that would place them at increased risk. Diagnostic colonoscopy work-up for positive sigmoidoscopy or advanced neoplasia, depending on the available colonoscopy resources.

Recommendations for Screening People at Increased Risk

Recommendations for screening people at increased risk are the same as for level 1.

Cascade Level 5

The recommendations are the same as for resource level 4, but they apply when diagnostic colonoscopy is severely limited.

Recommendations for Screening People at Average Risk

Flexible sigmoidoscopy for average-risk men and women once in a lifetime at the age of 50. Diagnostic colonoscopy only if advanced neoplasia is detected.

Recommendations for Screening People at Increased Risk

The recommendations for screening people at increased risk depend on the colonoscopic resources available.

Cascade Level 6

The recommendations are the same as for level 1, but they apply when colonoscopy and flexible sigmoidoscopy resources are severely limited.

Recommendations for Screening People at Average Risk

Fecal blood testing every year for average-risk men and women starting at the age of 50, in the absence of factors that would place them at increased risk. The type of test used depends on colonoscopy resources and the dietary habits of the population. Diagnostic work-up can be either with colonoscopy, if available, or barium enema if colonoscopy is not readily available.

Recommendations for Screening People at Increased Risk

The decision to separately identify these people for special screening (see level 1) depends on the available colonoscopy resources. If not available, these people can be screened along with average-risk individuals.

New Tests

Computed tomographic colonoscopy (CTC) and fecal DNA testing are available only in a few high-resource countries and are generally not applicable globally. However, where available, they can be offered to average-risk men and women, starting at the age of 50, who do not wish to be screened by other more standard methods, in order to increase the low number of people currently being screened in these countries.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Optimal use of colorectal cancer (CRC) screening procedures in areas with differing resources and differing epidemiologies

POTENTIAL HARMS

- **Fecal occult blood test.** Low sensitivity leads to a high number of false-negative results and the effect of false reassurance. The majority of cases identified by fecal occult blood testing are false-positive, and these patients will be subjected to unnecessary further investigations, usually colonoscopy.
- **Flexible sigmoidoscopy.** Examination of the left colon alone misses right-sided lesions. The sensitivity is low for the entire colon and ranges from 35% to 70% due to the significant number of right-sided adenomas that occur in the absence of distal tumors and are therefore missed on flexible sigmoidoscopy. Major complications occur in one per 10,000 cases.
- **Double-contrast barium enema (DCBE).** Sensitivity and specificity are inferior to those of colonoscopy and computed-tomographic colonography. Even for large polyps and cancers, DCBE offers substantially lower sensitivity (48%) than colonoscopy, and DCBE is more likely than colonoscopy to yield false-positives (artifacts diagnosed as polyps).

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Recommendations for Action - Implementing a Program

Recommendations for Action - General

- Develop and disseminate structured educational programs for members of the public, providers, health-care systems, and policy-makers/political leaders. Effective educational programs should be directed to each of the important participants in an acceptable manner.
- Develop evidence-based standards for quality throughout the screening process.
- Develop and disseminate inexpensive, easy-to-use clinical management systems.
- Advocate screening through national and local venues.
- Promote colorectal cancer screening as part of comprehensive clinical preventive care.

Recommendations for Action - Program Design

Planning the Screening Program

- A target population should be identified - i.e., asymptomatic men and women, age, risk factors (e.g., familial).
- The decision to implement colorectal cancer screening should be based on the relative burden of colorectal cancer in the population to be screened.
- The screening strategy (test, interval, age range) should be based on medical evidence (guidelines), availability of resources, level of risk, and cultural acceptance by the population.
- Support by influential professional and patient advocacy groups and from the media is essential.
- Evaluate the feasibility of the proposed program. Address the development and allocation of resources (financial, personnel, facilities).
- Evaluate the specific cultural and language needs of the population.

Implementing the Screening Program

- Identify the target unit for implementation, and ensure communication (training and education) with providers (general practitioners and others) and the target population.
- Develop and disseminate guidelines on screening, diagnosis, treatment, and surveillance in a patient-friendly and culturally sensitive manner.
- Develop methods for initial patient enrollment and follow-up.

Monitoring the Screening Program

- Careful, timely monitoring of the following rates: screening uptake, re-screening, and follow-up of positive tests.
- Compliance with surveillance recommendations.
- Measurement of the program quality should be in place, and evaluated regularly.
- Outcomes, including detection rates, cancer stage distribution, adenoma detection, complications, and, finally, the effect on the population incidence and mortality.

IMPLEMENTATION TOOLS

Foreign Language Translations

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

World Gastroenterology Organisation (WGO). Practice guidelines: colorectal cancer screening. Paris (France): World Gastroenterology Organisation (WGO); 2007. 18 p.

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2007

GUIDELINE DEVELOPER(S)

World Gastroenterology Organisation - Medical Specialty Society

SOURCE(S) OF FUNDING

World Gastroenterology Organisation (WGO-OMGE)

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Guidelines Committee

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [World Gastroenterology Organisation \(WGO-OMGE\) Web site](#).

Print copies: Available from the World Gastroenterology Organisation (WGO-OMGE), c/o Medconnect GMBH, Brunnsteinster. 10, 81541 Munich, Germany

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Graded evidence. Professor Elewaut's essential reading.
- French, Mandarin, Russian, and Spanish translations of the original guideline.

Available from the [World Gastroenterology Organisation \(WGO-OMGE\) Web site](#).

Print copies: Available from the World Gastroenterology Organisation (WGO-OMGE), c/o Medconnect GMBH, Brunnsteinster. 10, 81541 Munich, Germany

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on May 16, 2008. The information was verified by the guideline developer on June 18, 2008.

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